

**ESTIMATE  
OF  
APPROXIMATE COSTS AND QUANTITIES**

Client: California State Coastal Conservancy

Project: Taylor Yard Restoration Feasibility Study  
Alternative 1: Optimize Flood Storage

Job Number: 0017

Basis of Estimate: Conceptual Site Plans - Medium Range

Date of Plans: June 2002

Quantities By: ML  
Unit Prices By: ML & AKS  
Checked By: DGC & AKS

Date: 6/20/02  
Date: 1/10/02  
Date: 6/20/02

ITEM	COST
CONSTRUCTION	\$148,018,000
PRELIMINARY ENGINEERING (2%)	\$2,960,000
SOIL/GROUND WATER REMEDIATION STUDIES (3%)	\$4,441,000
ENVIRONMENTAL REVIEW (2%)	\$2,960,000
FINAL ENGINEERING/DESIGN (7%)	\$10,361,000
CONSTRUCTION MANAGEMENT (5%)	\$7,401,000
ENVIRONMENTAL MONITORING (1%)	\$1,480,000
<b>TOTAL:</b>	<b>\$177,621,000</b>

**NOTE:**

1. Cost does not include land acquisition, post-construction monitoring and maintenance.
2. This estimate is provided as a service to our client for comparative purposes only and is based on prices current at the time this estimate was prepared. Actual costs and quantities may vary due to a number of circumstances including but not limited to: changes in field conditions, availability and/or cost of materials, methods and/or timing of construction, and inflation.
3. **No cost guarantee is expressed or implied. See attached assumptions and qualifications.**
4. Costs does not include special studies or research related to design.

ALTERNATIVE 1: ITEMS SUMMARY		
ITEM NO.	DESCRIPTION	ITEM COST
<b>1.00</b>	<b>SITE ACCESS, YARD SETUP, MOB AND DEMOB</b>	
1.01	Mobilization and Demobilization	\$2,815,700
	<b>SUBTOTAL</b>	<b>\$2,815,700</b>
<b>2.00</b>	<b>GRADING</b>	
2.01	Parcel G	\$112,783,900
	<b>SUBTOTAL</b>	<b>\$112,783,900</b>
<b>3.00</b>	<b>SITE WORKS</b>	
3.01	Utility & Service Relocation	\$193,500
	<b>SUBTOTAL</b>	<b>\$193,500</b>
<b>4.00</b>	<b>HYDRAULIC STRUCTURES</b>	
4.01	Parcels G	\$800,000
	<b>SUBTOTAL</b>	<b>\$800,000</b>
<b>5.00</b>	<b>MISCELLANEOUS STRUCTURES</b>	
5.01	Parcel G	\$220,500
	<b>SUBTOTAL</b>	<b>\$220,500</b>
<b>6.00</b>	<b>HABITAT</b>	
6.01	Revegetation - Parcel G	\$1,600,600
	<b>SUBTOTAL</b>	<b>\$1,600,600</b>
	<b>SUBTOTAL</b>	<b>\$118,414,200</b>
	<b>CONTINGENCIES (25%)</b>	<b>\$29,603,550</b>
	<b>TOTAL (Subject to attached qualifications)</b>	<b>\$148,017,750</b>

<b>ALTERNATIVE 1</b>					
<b>1.00 SITE ACCESS, YARD SETUP, MOB AND DEMOB</b>					
<b>1.01 Mobilization and Demobilization</b>					
<b>Item #</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>TOTAL</b>
1	Mobilization/Demobilization	1,407,830	cy	\$2.00	\$2,815,660
2					
3					
4					
5					
6					
7					
<b>Notes:</b> 1. Unit costs are in-place costs and include contractor's overhead and profit. 2. Mob/Demob costs based on earthwork required for Parcel G only. 3. Demolition and disposal of railroad infrastructure, misc. structures and undocumented hazardous materials are not included in cost estimate since these costs are assumed to be borne by others. 4. Cost estimate does not include property acquisition costs.					
<b>1.01 Mobilization and Demobilization</b>				<b>SUBTOTAL:</b>	<b>\$2,815,660</b>

<b>ALTERNATIVE 1</b>					
<b>2.00 GRADING</b>					
<b>2.01 Parcel G</b>					
<b>Item #</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>TOTAL</b>
1	Clear and Grub	48	ac	\$1,500.00	\$72,138
2	Cut (Excavate, move & haul)	1,407,830	cy	\$8.00	\$11,262,640
3	Contaminated Soil Remediation	1,407,830	cy	\$70.00	\$98,548,100
4	Fill 4.5' of Soil over Project Area	349,050	cy	\$6.00	\$2,094,300
5	Fill 6" of Top Soil over Project Area	2,090	msf	\$386.00	\$806,740
<p><b>Notes:</b></p> <ol style="list-style-type: none"> <li>1. Unit costs are in-place costs and include contractor's overhead and profit.</li> <li>2. Contaminated soil remediation costs based on medium range estimates.</li> <li>3. Includes 5 feet of overexcavation of contaminated soils and backfill with clean soils.</li> <li>4. Contaminated groundwater assumed. Cost of groundwater remediation not included.</li> <li>5. Use of groundwater barrier (clay liner) and associated water level control system not included.</li> <li>6. msf = 1000s of square feet</li> </ol>					
<b>2.01 Parcel G</b>				<b>SUBTOTAL:</b>	<b>\$112,783,918</b>

<b>ALTERNATIVE 1</b>					
<b>3.00 SITE WORKS</b>					
<b>3.01 Utility &amp; Service Relocation</b>					
<b>Item #</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>TOTAL</b>
	<b>UTILITY RELOCATION</b>				
1	Realign/Intercept Storm Drains (700 ft)	1	ls	\$100,000	\$100,000
2	US Sprint Fiber System Realignment	5,500	lf	\$17	\$93,500
	<b>NO SITE WORKS</b>				
<b>Notes:</b> 1. Unit costs are in-place costs and include contractor's overhead and profit. 2. Assumes realignment of Qwest cables and oil/gas pipelines not required. 3. Assumes realignment of City-UPRC drain. 4. Realignment of MTA maintenance facility access road not included. 5. Assumes levee access road through weir.					
<b>3.01 Utility &amp; Service Relocation</b>				<b>SUBTOTAL:</b>	<b>\$193,500</b>

<b>ALTERNATIVE 1</b>					
<b>4.00 HYDRAULIC STRUCTURES</b>					
<b>4.01 Parcels G</b>					
<b>Item #</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>TOTAL</b>
1	LAR Levee Side Weir - Flood Diversion	1	ls	\$600,000	\$600,000
2	Pumping Station for Return Flow to LAR	1	ls	\$200,000	\$200,000
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13					
<b>Notes:</b> 1. Cost estimates for hydraulic structures are allowances only. 2. Allowances include erosion control around structure except outflow pipes. 3. Side weir cost includes levee excavation. 4. Cost of exfiltration gallery or other storm water treatment systems not included. 5. No cost included for LAR low flow diversion. 6. No cost included for diversion of STP flows.					
<b>4.01 Parcels G</b>				<b>SUBTOTAL:</b>	<b>\$800,000</b>

<b>ALTERNATIVE 1</b>					
<b>5.00 MISCELLANEOUS STRUCTURES</b>					
<b>5.01 Parcel G</b>					
<b>Item #</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>TOTAL</b>
1	Multi-Use Trail	6,300	lf	\$35	\$220,500
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<b>Notes:</b> 1. Multi-use trail is a hard surface, 12' wide with maintenance vehicle access. 2. Multi-use trails costs do not include any new LA River crossings (bridges). 3. Multi-use trail connects to existing levee trail at project boundaries. 4. Costs do not include public art, historical displays or site improvements for classrooms/ research facilities. 5. No Parcel D improvements included					
<b>5.01 Parcel G</b>				<b>SUBTOTAL:</b>	<b>\$220,500</b>

ALTERNATIVE 1					
6.00 HABITAT					
6.01 Revegetation - Parcel G					
Item #	Description	Quantity	Unit	Unit Price	TOTAL
1	Emergent Wetland/Freshwater Marsh	137,110	sf	\$1.25	\$171,388
2	Perennial Bunchgrass	895,460	sf	\$0.20	\$179,092
3	Riparian Thicket	990,130	sf	\$0.15	\$148,520
4	Simulated Alluvial Riverbank	39,690	sf	\$4.00	\$158,760
5	Temporary Overhead Irrigation on Grade	1,885,590	sf	\$0.50	\$942,795
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19					
<b>Notes:</b> 1. Costs provided by KTU&A (8/2001). 2. Emergent wetland/freshwater marsh is self-sustaining - no irrigation included in cost. 3. Simulated Alluvial Riverbank includes rock placement with minor planting, no irrigation required. 4. Temporary Overhead Irrigation on grade for Riparian Thicket and Bunchgrass habitats. 5. Cost for Wetlands does not include special flow regulation systems or storm water pre-treatment. 6. Does not include habitat planting costs for Parcel D. 7. Does not include maintenance costs for Parcels D or G. 8. Does not include equipment relocation costs for Parcel D before and after storm flows.					
6.01 Revegetation - Parcel G				<b>SUBTOTAL:</b>	<b>\$1,600,554</b>



**ESTIMATE  
OF  
APPROXIMATE COSTS AND QUANTITIES**

Client: California State Coastal Conservancy

Project : Taylor Yard Restoration Feasibility Study  
Alternative 2: Optimize Habitat Diversity

Job Number: 0017

Basis of Estimate: Conceptual Site Plans - Medium Range

Date of Plans: June 2002

Quantities By: ML  
Unit Prices By: ML & AKS  
Checked By: DGC & AKS

Date: 6/20/02  
Date: 1/10/02  
Date: 6/20/02

ITEM	COST
CONSTRUCTION	\$110,299,000
PRELIMINARY ENGINEERING (2%)	\$2,206,000
SOIL/GROUND WATER REMEDIATION STUDIES (3%)	\$3,309,000
ENVIRONMENTAL REVIEW (2%)	\$2,206,000
FINAL ENGINEERING/DESIGN (7%)	\$7,721,000
CONSTRUCTION MANAGEMENT (5%)	\$5,515,000
ENVIRONMENTAL MONITORING (1%)	\$1,103,000
<b>TOTAL:</b>	<b>\$132,359,000</b>

**NOTE:**

1. Cost does not include land acquisition, post-construction monitoring and maintenance.
2. This estimate is provided as a service to our client for comparative purposes only and is based on prices current at the time this estimate was prepared. Actual costs and quantities may vary due to a number of circumstances including but not limited to: changes in field conditions, availability and/or cost of materials, methods and/or timing of construction, and inflation.
3. **No cost guarantee is expressed or implied. See attached assumptions and qualifications.**
4. Costs does not include special studies or research related to design.

ALTERNATIVE 2: ITEMS SUMMARY		
ITEM NO.	DESCRIPTION	ITEM COST
1.00	<b>SITE ACCESS, YARD SETUP, MOB AND DEMOB</b>	
1.01	Mobilization and Demobilization	\$2,029,000
	<b>SUBTOTAL</b>	<b>\$2,029,000</b>
2.00	<b>GRADING</b>	
2.01	Parcel G	\$82,217,000
	<b>SUBTOTAL</b>	<b>\$82,217,000</b>
3.00	<b>SITE WORKS</b>	
3.01	Utility & Service Relocation	\$193,500
	<b>SUBTOTAL</b>	<b>\$193,500</b>
4.00	<b>HYDRAULIC STRUCTURES</b>	
4.01	Parcel G	\$865,000
	<b>SUBTOTAL</b>	<b>\$865,000</b>
5.00	<b>MISCELLANEOUS STRUCTURES</b>	
5.01	Parcel G	\$185,500
	<b>SUBTOTAL</b>	<b>\$185,500</b>
6.00	<b>HABITAT</b>	
6.01	Revegetation - Parcel G	\$2,749,200
	<b>SUBTOTAL</b>	<b>\$2,749,200</b>
	<b>SUBTOTAL</b>	<b>\$88,239,200</b>
	<b>CONTINGENCIES (25%)</b>	<b>\$22,059,800</b>
	<b>TOTAL (Subject to attached qualifications)</b>	<b>\$110,299,000</b>

<b>ALTERNATIVE 2</b>					
<b>1.00 SITE ACCESS, YARD SETUP, MOB AND DEMOB</b>					
<b>1.01 Mobilization and Demobilization</b>					
<b>Item #</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>TOTAL</b>
1	Mobilization/Demobilization	1,014,500	cy	\$2.00	\$2,029,000
<b>Notes:</b> 1. Unit costs are in-place costs and include contractor's overhead and profit. 2. Mob/Demob costs based on earthwork required for Parcel G only. 3. Demolition and disposal of railroad infrastructure, misc. structures and undocumented hazardous materials are not included in cost estimate since these costs are assumed to be borne by others. 4. Cost estimate does not include property acquisition costs.					
<b>1.01 Mobilization and Demobilization</b>				<b>SUBTOTAL:</b>	<b>\$2,029,000</b>

<b>ALTERNATIVE 2</b>					
<b>2.00 GRADING</b>					
<b>2.01 Parcel G</b>					
<b>Item #</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>TOTAL</b>
1	Clear and Grub	50	ac	\$1,500.00	\$74,840
2	Cut (Excavate, move & haul)	1,014,500	cy	\$8.00	\$8,116,000
3	Contaminated Soil Remediation	1,014,500	cy	\$70.00	\$71,015,000
4	Fill 4.5' of Soil over Project Area	362,250	cy	\$6.00	\$2,173,500
5	Fill 6" of Top Soil over Project Area	2,170	msf	\$386.00	\$837,620
<b>Notes:</b> 1. Unit costs are in-place costs and include contractor's overhead and profit. 2. Contaminated soil remediation costs based on medium range estimates. 3. Includes 5 feet of overexcavation of contaminated soils and backfill with clean soils. 4. Contaminated groundwater assumed. Cost of groundwater remediation not included. 5. Use of groundwater barrier (clay liner) and associated water level control system not included. 6. msf = 1000s of square feet					
<b>2.01 Parcel G</b>				<b>SUBTOTAL:</b>	<b>\$82,216,960</b>

<b>ALTERNATIVE 2</b>					
<b>3.00 SITE WORKS</b>					
<b>3.01 Utility &amp; Service Relocation</b>					
<b>Item #</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>TOTAL</b>
	<b>UTILITY RELOCATION</b>				
1	Realign/Intercept Storm Drains (700 ft)	1	ls	\$100,000	\$100,000
2	US Sprint Fiber System Realignment	5,500	lf	\$17	\$93,500
	<b>NO SITE WORKS</b>				
<b>Notes:</b> 1. Unit costs are in-place costs and include contractor's overhead and profit. 2. Assumes realignment of City-UPRC drain. 3. Assumes realignment of Qwest cables and oil/gas pipelines not required. 4. Realignment of MTA maintenance facility access road not included. 5. Storm water treatment system cost under 3.00 Hydraulic Structures. 6. Assumes levee access road through weir.					
<b>3.01 Utility &amp; Service Relocation</b>				<b>SUBTOTAL:</b>	<b>\$193,500</b>

ALTERNATIVE 2					
4.00 HYDRAULIC STRUCTURES					
4.01 Parcel G					
Item #	Description	Quantity	Unit	Unit Price	TOTAL
1	LAR Levee Side Weir - Flood Diversion	1	ls	\$600,000	\$600,000
2	Pumping Station for Return Flow to LAR	1	ls	\$200,000	\$200,000
3	Oil/Water Separator with Trash Rack	1	ls	\$65,000	\$65,000
<b>Notes:</b> 1. Cost estimates for hydraulic structures are allowances only. 2. Allowances include erosion control around structure. 3. No cost included for LAR low flow diversion. 4. No cost included for diversion of STP flows.					
4.01 Parcel G				SUBTOTAL:	\$865,000

ALTERNATIVE 2					
5.00 MISCELLANEOUS STRUCTURES					
5.01 Parcel G					
Item #	Description	Quantity	Unit	Unit Price	TOTAL
1	Wildlife Viewing Platform	1,500	sf	\$75	\$112,500
2	Footpath	4,700	lf	\$15	\$70,500
3	Nesting Boxes	5	ea	\$500	\$2,500
<b>Notes:</b> 1. Viewing platform is assumed to be a wood deck on steel frame. 2. Footpath is a stabilized soft surface, 6' wide. 3. Nesting boxes are wood nests on steel posts. 4. Costs do not include public art, historical displays or site improvements for classrooms/ research facilities. 5. No Parcel D improvements included					
5.01 Parcel G				SUBTOTAL:	\$185,500

ALTERNATIVE 2					
6.00 HABITAT					
6.01 Revegetation - Parcel G					
Item #	Description	Quantity	Unit	Unit Price	TOTAL
1	Emergent Wetland/Freshwater Marsh	102,390	sf	\$1.25	\$127,988
2	Perennial Bunchgrass	518,700	sf	\$0.20	\$103,740
3	Sage Coastal Sage Scrub	350,300	sf	\$0.90	\$315,270
4	Cactus Coastal Sage Scrub	211,030	sf	\$0.90	\$189,927
5	Riparian Thicket	193,600	sf	\$0.15	\$29,040
6	Riparian Woodland	212,590	sf	\$0.35	\$74,407
7	Walnut Woodland	332,370	sf	\$1.25	\$415,463
8	Simulated Alluvial Riverbank	69,390	sf	\$4.00	\$277,560
9	Temporary Overhead Irrigation on Grade	924,890	sf	\$0.50	\$462,445
10	Temporary Drip / Flood Bubblers	561,330	sf	\$0.75	\$420,998
11	Permanent Flood Bubblers	332,370	sf	\$1.00	\$332,370
<b>Notes:</b> 1. Planting and irrigation costs provided by KTU&A (8/2001) 2. Emergent wetland/freshwater marsh is self-sustaining - no irrigation included in cost. 3. Simulated Alluvial Riverbank includes rock placement with minor planting, no irrigation required 4. Temporary Overhead Irrigation on grade for Riparian Thicket, Riparian Woodland, Bunchgrass habitats 5. Temporary Drip/Flood Bubblers for Sage Coastal Sage Scrub, Cactus Coastal Sage Scrub habitats 6. Permanent Flood Bubblers for Walnut Woodland habitat. 7. Cost for Wetlands does not include special flow regulation systems. 8. Does not include habitat planting costs for Parcel D. 9. Does not include maintenance costs for Parcels D or G.					
6.01 Revegetation - Parcel G				<b>SUBTOTAL:</b>	<b>\$2,749,206</b>



**ESTIMATE  
OF  
APPROXIMATE COSTS AND QUANTITIES**

Client: California State Coastal Conservancy

Project : Taylor Yard Restoration Feasibility Study  
Alternative 3: Optimize Upland Habitat

Job Number: 0017

Basis of Estimate: Conceptual Site Plans - Medium Range

Date of Plans: June 2002

Quantities By: ML

Date: 6/20/02

Unit Prices By: ML & AKS

Date: 1/10/02

Revised By: DGC & AKS

Date: 6/20/02

ITEM	COST
CONSTRUCTION	\$79,451,000
PRELIMINARY ENGINEERING (2%)	\$1,589,000
SOIL/GROUND WATER REMEDIATION STUDIES (3%)	\$2,384,000
ENVIRONMENTAL REVIEW (2%)	\$1,589,000
FINAL ENGINEERING/DESIGN (7%)	\$5,562,000
CONSTRUCTION MANAGEMENT (5%)	\$3,973,000
ENVIRONMENTAL MONITORING (1%)	\$795,000
<b>TOTAL:</b>	<b>\$95,343,000</b>

**NOTE:**

1. Cost does not include land acquisition, post-construction monitoring and maintenance.
2. This estimate is provided as a service to our client for comparative purposes only and is based on prices current at the time this estimate was prepared. Actual costs and quantities may vary due to a number of circumstances including but not limited to: changes in field conditions, availability and/or cost of materials, methods and/or timing of construction, and inflation.
3. **No cost guarantee is expressed or implied. See attached assumptions and qualifications.**
4. Costs does not include special studies or research related to design.

ALTERNATIVE 3: ITEMS SUMMARY		
ITEM NO.	DESCRIPTION	ITEM COST
<b>1.00</b>	<b>SITE ACCESS, YARD SETUP, MOB AND DEMOB</b>	
1.01	Mobilization and Demobilization	\$1,298,700
	<b>SUBTOTAL</b>	<b>\$1,298,700</b>
<b>2.00</b>	<b>GRADING</b>	
2.01	Parcel G	\$57,290,800
	<b>SUBTOTAL</b>	<b>\$57,290,800</b>
<b>3.00</b>	<b>SITE WORKS</b>	
3.01	Utility & Service Relocation	\$227,500
	<b>SUBTOTAL</b>	<b>\$227,500</b>
<b>4.00</b>	<b>HYDRAULIC STRUCTURES</b>	
4.01	Parcel G	\$48,000
	<b>SUBTOTAL</b>	<b>\$48,000</b>
<b>5.00</b>	<b>MISCELLANEOUS STRUCTURES</b>	
5.01	Parcel G	\$928,500
	<b>SUBTOTAL</b>	<b>\$928,500</b>
<b>6.00</b>	<b>HABITAT</b>	
6.01	Revegetation - Parcel G	\$3,767,100
	<b>SUBTOTAL</b>	<b>\$3,767,100</b>
	<b>SUBTOTAL</b>	<b>\$63,560,600</b>
	<b>CONTINGENCIES (25%)</b>	<b>\$15,890,200</b>
	<b>TOTAL (Subject to attached qualifications)</b>	<b>\$79,450,800</b>

ALTERNATIVE 3					
1.00 SITE ACCESS, YARD SETUP, MOB AND DEMOB					
1.01 Mobilization and Demobilization					
Item #	Description	Quantity	Unit	Unit Price	TOTAL
1	Mobilization/Demobilization	649,336	cy	\$2.00	\$1,298,672
<b>Notes:</b> 1. Unit costs are in-place costs and include contractor's overhead and profit. 2. Mob/Demob costs based on earthwork required for Parcel G only. 3. Demolition and disposal of railroad infrastructure, misc. structures and undocumented hazardous materials are not included in cost estimate since these costs are assumed to be borne by others. 4. Cost estimate does not include property acquisition costs.					
1.01 Mobilization and Demobilization				<b>SUBTOTAL:</b>	<b>\$1,298,672</b>

ALTERNATIVE 3					
2.00 GRADING					
2.01 Parcel G					
Item #	Description	Quantity	Unit	Unit Price	TOTAL
1	Clear and Grub	53	ac	\$1,500.00	\$79,831
2	Cut (Excavate, move & haul)	649,336	cy	\$8.00	\$5,194,688
3	Contaminated Soil Remediation	649,336	cy	\$70.00	\$45,453,520
4	Geosynthetic Clay Liner	257,600	sy	\$13.00	\$3,348,800
5	Fill 4.5' of Soil over Project Area	386,406	cy	\$6.00	\$2,318,436
6	Fill 6" of Top Soil over Project Area	2,320	msf	\$386.00	\$895,520
<p><b>Notes:</b></p> <ol style="list-style-type: none"> <li>1. Unit costs are in-place costs and include contractor's overhead and profit.</li> <li>2. Contaminated soil remediation costs based on medium range estimates.</li> <li>3. Includes 5 feet of overexcavation of contaminated soils and backfill with clean soils.</li> <li>4. Contaminated groundwater assumed. Cost of groundwater remediation not included.</li> <li>5. Assumes use of groundwater water level control system not required.</li> <li>6. msf = 1000s of square feet</li> </ol>					
2.01 Parcel G				<b>SUBTOTAL:</b>	<b>\$57,290,795</b>

<b>ALTERNATIVE 3</b>					
<b>3.00 SITE WORKS</b>					
<b>3.01 Utility &amp; Service Relocation</b>					
<b>Item #</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>TOTAL</b>
	<b>UTILITY RELOCATION</b>				
1	Realign/Intercept Storm Drains (700 ft)	1	ls	\$100,000	\$100,000
2	US Sprint Fiber System Realignment	5,500	lf	\$17	\$93,500
3	Qwest Cable Realignment	2,000	lf	\$17	\$34,000
	<b>NO SITE WORKS</b>				
<b>Notes:</b> 1. Unit costs are in-place costs and include contractor's overhead and profit. 2. Assumes realignment of City-UPRC drain. 3. Storm water overflow discharge pump not included in cost allowance. 4. Assumes realignment of oil/gas pipelines not required. 5. Realignment of MTA maintenance facility access road not included. 6. Storm water treatment system cost under 3.00 Hydraulic Structures.					
<b>3.01 Utility &amp; Service Relocation</b>				<b>SUBTOTAL:</b>	<b>\$227,500</b>

ALTERNATIVE 3					
4.00 HYDRAULIC STRUCTURES					
4.01 Parcel G					
Item #	Description	Quantity	Unit	Unit Price	TOTAL
1	Exfiltration Gallery	2,400	lf	\$20	\$48,000
<b>Notes:</b> 1. Cost estimates for hydraulic structures are allowances only. 2. Allowances include erosion control around structure. 3. Exfiltration gallery cost includes 3 ft diameter perforated pipe, filter cloth, biologically active sand/gravel. 4. No cost included for LAR low flow diversion. 5. No cost included for diversion of STP flows.					
4.01 Parcel G				SUBTOTAL:	\$48,000

ALTERNATIVE 3					
5.00 MISCELLANEOUS STRUCTURES					
5.01 Parcel G					
Item #	Description	Quantity	Unit	Unit Price	TOTAL
1	Nature Center	4,000	sf	\$160	\$640,000
2	Footpath	7,300	lf	\$15	\$109,500
3	Multi-Use Trail	5,000	lf	\$35	\$175,000
4	Nesting Boxes	8	ea	\$500	\$4,000
<b>Notes:</b> 1. Nature center cost includes finished shell, utilities & access; no interpretive facilities or furnishings. 2. Footpath is a stabilized soft surface, 6' wide. 3. Multi-use trail is a hard surface, 12' wide with maintenance vehicle access. 4. Nesting boxes are wood nests on steel posts. 5. Multi-use trails costs do not include any new LA River crossings (bridges). 6. Multi-use trail connects to existing levee trail at project boundaries. 7. No Parcel D improvements included 8. Costs do not include public art, historical displays or site improvements for classrooms/research facilities.					
5.01 Parcel G				<b>SUBTOTAL:</b>	<b>\$928,500</b>

ALTERNATIVE 3					
6.00 HABITAT					
6.01 Revegetation - Parcel G					
Item #	Description	Quantity	Unit	Unit Price	TOTAL
1	Emergent Wetland/Freshwater Marsh	294,290	sf	\$1.25	\$367,863
2	Perennial Bunchgrass	154,190	sf	\$0.20	\$30,838
3	Sage Coastal Sage Scrub	423,990	sf	\$0.90	\$381,591
4	Cactus Coastal Sage Scrub	250,500	sf	\$0.90	\$225,450
5	Chaparral Species	177,390	sf	\$0.90	\$159,651
6	Riparian Thicket	202,290	sf	\$0.15	\$30,344
7	Riparian Woodland	312,260	sf	\$0.35	\$109,291
8	Oak/Sycamore Woodland	32,240	sf	\$1.25	\$40,300
9	Walnut Woodland	219,430	sf	\$1.25	\$274,288
10	Simulated Alluvial Riverbank	219,550	sf	\$4.00	\$878,200
11	Temporary Overhead Irrigation on Grade	668,740	sf	\$0.50	\$334,370
12	Temporary Drip / Flood Bubblers	674,490	sf	\$0.75	\$505,868
13	Permanent Flood Bubblers	429,060	sf	\$1.00	\$429,060
<b>Notes:</b> 1. Costs provided by KTU&A (8/2001) 2. Emergent wetland/freshwater marsh is self-sustaining - no irrigation included in cost. 3. Simulated Alluvial Riverbank includes rock placement with minor planting, no irrigation required 4. Temporary Overhead Irrigation on grade for Riparian Thicket, Riparian Woodland, Bunchgrass habitats 5. Temporary Drip/Flood Bubblers for Sage Coastal Sage Scrub, Cactus Coastal Sage Scrub habitats 6. Permanent Flood Bubblers for Chapparral, Walnut Woodland, Oak/Sycamore Woodland habitats 7. Cost for Wetlands does not include special flow regulation systems. 8. Does not include habitat planting costs for Parcel D. 9. Does not include maintenance costs for Parcels D or G.					
6.01 Revegetation - Parcel G				<b>SUBTOTAL:</b>	<b>\$3,767,112</b>



**ESTIMATE  
OF  
APPROXIMATE COSTS AND QUANTITIES**

Client: California State Coastal Conservancy

Project: Taylor Yard Restoration Feasibility Study  
Alternative 4: Naturalize River Edge

Job Number: 0017

Basis of Estimate: Conceptual Site Plans - Medium Range

Date of Plans: June 2002

Quantities By: ML

Date: 6/20/02

Unit Prices By: ML & AKS

Date: 1/10/02

Checked By: DGC & AKS

Date: 6/20/02

ITEM	COST
CONSTRUCTION	\$157,250,000
PRELIMINARY ENGINEERING (2%)	\$3,145,000
SOIL/GROUND WATER REMEDIATION STUDIES (3%)	\$4,718,000
ENVIRONMENTAL REVIEW (2%)	\$3,145,000
FINAL ENGINEERING/DESIGN (7%)	\$11,008,000
CONSTRUCTION MANAGEMENT (5%)	\$7,863,000
ENVIRONMENTAL MONITORING (1%)	\$1,573,000
<b>TOTAL:</b>	<b>\$188,702,000</b>

**NOTE:**

1. Cost does not include land acquisition, post-construction monitoring and maintenance.
2. This estimate is provided as a service to our client for comparative purposes only and is based on prices current at the time this estimate was prepared. Actual costs and quantities may vary due to a number of circumstances including but not limited to: changes in field conditions, availability and/or cost of materials, methods and/or timing of construction, and inflation.
3. **No cost guarantee is expressed or implied. See attached assumptions and qualifications.**
4. Costs does not include special studies or research related to design.

ALTERNATIVE 4: ITEMS SUMMARY		
ITEM NO.	DESCRIPTION	ITEM COST
<b>1.00</b>	<b>SITE ACCESS, YARD SETUP, MOB AND DEMOB</b>	
1.01	Mobilization and Demobilization	\$2,562,000
	<b>SUBTOTAL</b>	<b>\$2,562,000</b>
<b>2.00</b>	<b>GRADING</b>	
2.01	Parcel G	\$106,795,400
	<b>SUBTOTAL</b>	<b>\$106,795,400</b>
<b>3.00</b>	<b>SITE WORKS</b>	
3.01	Utility & Service Relocation	\$6,419,100
	<b>SUBTOTAL</b>	<b>\$6,419,100</b>
<b>4.00</b>	<b>HYDRAULIC STRUCTURES</b>	
4.01	Parcel G	\$0
	<b>SUBTOTAL</b>	<b>\$0</b>
<b>5.00</b>	<b>MISCELLANEOUS STRUCTURES</b>	
5.01	Parcel G	\$657,500
	<b>SUBTOTAL</b>	<b>\$657,500</b>
<b>6.00</b>	<b>HABITAT</b>	
6.01	Revegetation - Parcel G	\$9,366,300
	<b>SUBTOTAL</b>	<b>\$9,366,300</b>
	<b>SUBTOTAL</b>	<b>\$125,800,300</b>
	<b>CONTINGENCIES (25%)</b>	<b>\$31,450,100</b>
	<b>TOTAL (Subject to attached qualifications)</b>	<b>\$157,250,400</b>

ALTERNATIVE 4					
1.00 SITE ACCESS, YARD SETUP, MOB AND DEMOB					
1.01 Mobilization and Demobilization					
Item #	Description	Quantity	Unit	Unit Price	TOTAL
1	Mobilization/Demobilization	1,281,000	cy	\$2.00	\$2,562,000
<b>Notes:</b> 1. Unit costs are in-place costs and include contractor's overhead and profit. 2. Mob/Demob costs based on earthwork required for Parcel G only. 3. Demolition and disposal of railroad infrastructure, misc. structures and undocumented hazardous materials are not included in cost estimate since these costs are assumed to be borne by others. 4. Cost estimate does not include property acquisition costs.					
1.01 Mobilization and Demobilization				SUBTOTAL:	\$2,562,000

<b>ALTERNATIVE 4</b>					
2.00 GRADING					
2.01 Parcel G					
Item #	Description	Quantity	Unit	Unit Price	TOTAL
1	Clear and Grub	58	ac	\$1,500.00	\$86,702
2	Cut (Excavate, move & haul)	1,281,000	cy	\$8.00	\$10,248,000
3	Contaminated Soil Remediation	1,281,000	cy	\$70.00	\$89,670,000
4	Fill 4.5' of Soil over Project Area	419,670	cy	\$6.00	\$2,518,020
5	Fill 6" of Top Soil over Project Area	2,520	msf	\$386.00	\$972,720
6	Levee Removal	220,000	sf	\$15.00	\$3,300,000
<b>Notes:</b> 1. Unit costs are in-place costs and include contractor's overhead and profit. 2. Contaminated soil remediation costs based on medium range estimates. 3. Includes 5 feet of overexcavation of contaminated soils and backfill with clean soils. 4. Contaminated groundwater assumed. Cost of groundwater remediation not included. 5. Use of groundwater barrier (clay liner) and associated water level control system not included. 6. msf = 1000s of square feet					
2.01 Parcel G				<b>SUBTOTAL:</b>	<b>\$106,795,442</b>

<b>ALTERNATIVE 4</b>					
<b>3.00 SITE WORKS</b>					
<b>3.01 Utility &amp; Service Relocation</b>					
<b>Item #</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>TOTAL</b>
	<b>UTILITY RELOCATION</b>				
1	Realign/Intercept Storm Drains (700 ft)	1	ls	\$100,000	\$100,000
2	OH Power Tower Removal/Relocation	6	ea	\$500,000	\$3,000,000
3	US Sprint Fiber System Realignment	5,500	lf	\$17	\$93,500
	<b>SITE WORKS</b>				
4	Railroad Bridge	1	ls	\$700,000	\$700,000
5	Railroad Traffic Temp. Diversion	5,000	lf	\$500	\$2,500,000
6	MTA Access Road Relocation	800	lf	\$32	\$25,600
<b>Notes:</b> 1. Unit costs are in-place costs and include contractor's overhead and profit. 2. Railroad Bridge related to realignment of MTA maintenance facility access road and underpass. 3. Assumes realignment of City-UPRC drain. 4. Assumes realignment of Qwest cables and oil/gas pipelines not required.					
<b>3.01 Utility &amp; Service Relocation</b>				<b>SUBTOTAL:</b>	<b>\$6,419,100</b>

ALTERNATIVE 4					
4.00 HYDRAULIC STRUCTURES					
4.01 Parcel G					
Item #	Description	Quantity	Unit	Unit Price	TOTAL
	NO SITE WORKS				
Notes:					
4.01 Parcel G				SUBTOTAL:	

<b>ALTERNATIVE 4</b>					
<b>5.00 MISCELLANEOUS STRUCTURES</b>					
<b>5.01 Parcel G</b>					
<b>Item #</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>TOTAL</b>
1	Wildlife Viewing Platform	1,500	sf	\$75	\$112,500
2	River Side Park w/ Concrete Plaza	1	ls	\$250,000	\$250,000
3	Footpath	8,000	lf	\$15	\$120,000
4	Multi-Use Trail	5,000	lf	\$35	\$175,000
<b>Notes:</b> 1. Viewing platform is assumed to be a wood deck on steel frame (1 platform only). 2. Footpath is a stabilized soft surface, 6' wide. 3. Multi-use Trail is a hard surface, 12' wide with maintenance vehicle access. 4. Multi-use trails costs do not include any new LA River crossings (bridges). 5. Multi-use trail connects to existing levee trail at project boundaries. 6. Costs do not include public art, historical displays or site improvements for classrooms/research facilities, or landscape demonstration area. 7. No Parcel D improvements included					
<b>5.01 Parcel G</b>				<b>SUBTOTAL:</b>	<b>\$657,500</b>

ALTERNATIVE 4					
6.00 HABITAT					
6.01 Revegetation - Parcel G					
Item #	Description	Quantity	Unit	Unit Price	TOTAL
1	Perennial Bunchgrass	405,780	sf	\$0.20	\$81,156
2	Sage Coastal Sage Scrub	272,070	sf	\$0.90	\$244,863
3	Riparian Thicket	409,010	sf	\$0.15	\$61,352
4	Riparian Woodland	405,420	sf	\$0.35	\$141,897
5	Oak/Sycamore Woodland	418,250	sf	\$1.25	\$522,813
6	Walnut Woodland	427,130	sf	\$1.25	\$533,913
7	Simulated Alluvial Riverbank	180,180	sf	\$4.00	\$720,720
8	Temporary Overhead Irrigation on Grade	1,220,210	sf	\$0.50	\$610,105
9	Temporary Drip / Flood Bubblers	272,070	sf	\$0.75	\$204,053
10	Permanent Flood Bubblers	845,380	sf	\$1.00	\$845,380
11	Biotechnical Bank Stabilization	3,600	lf	\$1,500.00	\$5,400,000
<b>Notes:</b> 1. Costs provided by KTU&A (8/2001) 2. Emergent wetland/freshwater marsh is self-sustaining - no irrigation included in cost. 3. Simulated Alluvial Riverbank includes rock placement with minor planting, no irrigation required 4. Temporary Overhead Irrigation on grade for Riparian Thicket, Riparian Woodland, Bunchgrass habitats 5. Temporary Drip/Flood Bubblers for Sage Coastal Sage Scrub habitat. 6. Permanent Flood Bubblers for Walnut Woodland, Oak/Sycamore Woodland habitats 7. Biotechnical Bank Stabilization costs provided by Watercycle (1/2002). 8. Does not include habitat planting costs for Parcel D. 9. Does not include maintenance costs for Parcels D or G.					
6.01 Revegetation - Parcel G				<b>SUBTOTAL:</b>	<b>\$9,366,250</b>